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Fire-resistant polycarbonate with good transparency, with a high phenyl group content

Patent Assignee: NEC CORP (NIDE); SHINETSU CHEM CO LTD (SHIE); SHINETSU CHEM IND CO LTD (SHIE)

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Number of Countries: 003 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19850453	A1	19990506	DE 1050453	A	19981102	199924 B
JP 11140294	A	19990525	JP 97319039	A	19971105	199931
US 6284824	B1	20010904	US 98185508	A	19981104	200154

Priority Applications (No Type Date): JP 97319039 A 19971105

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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DE 19850453	A1	9	C08L-069/00	
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JP 11140294	A	9	C08L-069/00	
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US 6284824	B1		C08J-003/00	
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Abstract (Basic): DE 19850453 A1

NOVELTY - Fire-resistant polycarbonate resin materials containing organopolysiloxanes in which phenyl groups comprise at least 80 mol.% of all organic groups attached to silicon.

DETAILED DESCRIPTION - Fireproofed polycarbonate (PC) resin materials (IA), containing:

(a) 100 parts by weight (parts wt.) aromatic PC and

(b) 1-10 parts wt. organopolysiloxane essentially comprising 50-90 mol.% T-siloxane units of formula $R_1SiO_{3/2}$ and 10-50 mol.% D-siloxane units of formula $R_2R_3SiO_{2/2}$, where:

R_1-R_3 =optionally substituted 1-10C hydrocarbyl, with phenyl groups forming at least 80 mol% of all organic substituents.

Alternatively (type IB), the organopolysiloxane component (b') comprises 0-89.99 mol.% T units as above, 10-50 mol.% D units as above and 0.01-50 mol% Q-siloxane units of formula $SiO_{4/2}$.

USE - This is for the production of fire-resistant products such as electrical/electronic components, building materials, vehicle parts and everyday articles.

ADVANTAGE - This enables the production of fireproofed or fire-resistant polycarbonate materials with improved optical transparency and good mechanical properties.

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Technology Focus:

TECHNOLOGY FOCUS - POLYMERS - Preferred Composition: In materials (IA), component (b) comprises 60-80 mol.% T-siloxane units and 20-40 mol.% D-siloxane units as above; in materials (IB), component (b') comprises 10-79.99 mol.% T-siloxane units, 20-40 mol.% D-siloxane units and 0.01-50 mol.% Q-siloxane units as above. In each case, the D units contain up to 50 mol.% dimethylsiloxane units of formula $(CH_3)_2SiO_{2/2}$ and the polysiloxane (b or b') has a weight-average molecular wt. of 2000-50,000.

Preferred Preparation: Components (b) and (b') are obtained by known methods, i.e. by controlled hydrolytic condensation of suitable organochlorosilanes and/or -alkoxysilanes.

Title Terms: FIRE; RESISTANCE; POLYCARBONATE; TRANSPARENT; HIGH; PHENYL; GROUP; CONTENT

Derwent Class: A23; A26; A28; A35

International Patent Class (Main): C08J-003/00; C08L-069/00

International Patent Class (Additional): C08L-083/04

File Segment: CPI

Manual Codes (CPI/A-N): A05-E06A; A06-A00B; A07-A03A; A09-A01

Polymer Indexing (PS):

<01>

001 018; P0862 P0839 F41 F44 D01 D63; S9999 S1387

002 018; ND04; K9745-R; K9870 K9847 K9790; B9999 B4397 B4240; B9999
B4239; B9999 B3747-R; N9999 N6202 N6177; Q9999 Q6826-R; Q9999
Q6995-R; N9999 N5970-R; Q9999 Q7330-R; Q9999 Q9289 Q9212; B9999
B4091-R B3838 B3747

003 018; A999 A793

<02>

001 018; D19 D18 D76; A999 A793; A999 A782; P1445-R F81 Si 4A; S9999
S1387; S9999 S1605-R

002 018; G2288 G2277 G2266 D01 Si 4A D19 D18 D31 D76 D50 D86 F86 F85 C1
7A; G2288 G2277 G2266 D01 Si 4A D19 D18 D32 D76 D50 D92 F85 F86 C1
7A; G2288 G2277 G2266 D01 Si 4A D11 D10 D19 D18 D31 D76 D50 D87 F85
F86 C1 7A; G2346 G2335 D00 F85 Si 4A C1 7A; P1445-R F81 Si 4A;
H0033 H0011; A999 A793; A999 A782; S9999 S1605-R; S9999 S1387;
L9999 L2528 L2506; L9999 L2777

003 018; G2277-R G2266 D01 Si 4A F85 F86 C1 7A; G2277-R G2266 D01 Si 4A
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S1387; S9999 S1605-R; L9999 L2528 L2506; L9999 L2777

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Q6995-R; N9999 N5970-R; Q9999 Q7330-R; Q9999 Q9289 Q9212; B9999
B4091-R B3838 B3747

005 018; B9999 B5094 B4977 B4740; N9999 N5709; N9999 N6882 N6655; N9999
N6860 N6655; N9999 N6735-R N6655; N9999 N6177-R

006 018; R01740 G2335 D00 F20 H- O- 6A; R00862 D01 D02 D11 D10 D19 D18
D31 D50 D76 D87; A999 A475; A999 A771